RHODES HOMES ARIZONA
GOLDEN VALLEY SOUTH
Engineering Report

Prepared for:

RHODES HOMES

2215 Hualapai Mountain Road,
Suite H
Kingman, Arizona 86401

Prepared by:

Stanley Consultants INC.
A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

MAY, 2005

5820 S. Eastern Avenue, Suite 200, Las Vegas, NV 89119

Stanley Consultants INC.

TRANSMITTAL

TO:	Distribution List	DATE:	May 18, 2005
		PROJECT:	Golden Valley, South - CCN
		LOCATION:	
		PROJECT NO.:	17715.22.00
SUBJECT:	Golden Valley South, CC&N Application Water and Sewer	CONTRACT NO.:	

WE ARE SENDING YOU THE FOLLOWING ITEM(S):

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Copies per distribution list of Technical Exhibits for Arizona Corporation Commission, Application for CC&N Water and Sewer

1) Rhodes Homes Arizona, Golden Valley, South – Engineering Report

2) Miscellaneous Exhibits:

   a) Legal Descriptions – Golden Valley, South – Sewer and Water

   b) Map CC&N-W1 - Water Boundaries

   c) Map CC&N –S1 – Sewer Boundaries

   d) Golden Valley, South – Area Plan

DISTRIBUTION: Rhodes Homes Arizona, LLC (3), Bruce D. – Phoenix (1), Kim S. – Salt Lake City (1), Ray Jones – ARICOR (1), Snell & Wilmer – Carlos D. Ronstadt (17), SCI LV (5), SCI Kingman, (2)

SIGNED BY: _____

5820 S. Eastern Avenue • Suite 200 • Las Vegas, NV 89119-3057 • phone 702.369.9396 • fax 702.369.9793
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May 13, 2005

Rhodes Homes, Arizona
15 Hualapai Mountain Road, Suite H
Kingman, Arizona 86401

Dear Mr. Rhodes:

Subject: Engineering Report Golden Valley, South

In accordance with our Professional Services Agreement, Stanley Consultants is pleased to submit this final report, entitled “Engineering Report Golden Valley, South.

Sincerely,

Stanley Consultants, Inc.

David Woo
Program Manager Rhodes Mohave County Task Force

Attachments(s): Engineering Report Golden Valley, South
Area Plans

KY:EME

Stanley Consultants INC.
A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

DATE: May 2005

SUBJECT: Rhodes Homes Arizona, LLC
Golden Valley, South - Ownership Legend

American Land Management, LLC
6101 S. Mustang Circle
Sioux Falls, SD 57108

Desert Communities, Inc.
4730 S. Ft. Apache Rd., #300
Las Vegas, NV 89147

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Engineering Report

Golden Valley South

Rhodes Homes, Arizona

Kingman, Arizona

Respectfully submitted,

Stanley Consultants, Inc.

Prepared by: _____

Reviewed by: _____

Approved by: _____

May, 2005

Stanley Consultants INC.

A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

Executive Summary

Executive Summary

A *Preliminary Engineering Study* of approximately 5,760 acres of open rangeland property located west-southwest of the City of Kingman, Arizona, was performed by Stanley Consultants, Inc. The site occupies portions of 9 sections south of Shinarump Road, and a quarter section north of Shinarump Road. The site is also located south of US Highway 68 and west of Interstate Highway 40.

Survey ground control points were established and aerial mapping was performed to establish the horizontal and vertical control with 2-foot contours on the subject property.

An over-all area wide constraints map with off-site improvements was developed and is included with this report as a foldout map. (Refer to Rhodes 5800 Constraints Exhibit, located in Section 1.) This exhibit identifies the land ownerships, existing utilities, transportation elements and where the drainage features within or near the property as identified in the Constraints Exhibit.

Stanley Consultants Inc., is preparing an American Land Title Association (ALTA) survey for the property. The ALTA survey takes into account the known constraints and encumbrances on the property. The ALTA survey is also the first step toward development and subdividing the property. The certified ALTA survey is being transmitted to Rhodes Homes, separate from this Engineering Report.

It is the understanding that Rhodes Homes wishes to develop a project with smaller than the 5-acre lots the current RDA zoning designation allows. The only way to do this is to do a major General Plan Amendment through Mohave County unless the Client has the ability to obtain additional land contiguous to Kingman City limits. Once the Plan Amendment is approved, it is possible to submit concurrent Zoning Applications; Master

Site Plan; Planned Unit Development and Preliminary Plat Applications together through the process. However, each application will require a great deal of information such as traffic studies; infrastructure studies; and environmental studies.

Water/Waste Water

This investigation includes research, analysis and development of conceptual approaches to water, wastewater and drainage infrastructure to consist of the layout of water and sewer alignments and layout of general drainage patterns and major facilities.

Preliminary investigation indicates that there is no existing water infrastructure, and the closest adjacent infrastructure is inadequate to support a municipal type water supply system. This is due to the fact that there has been limited development of water resources in the area to support the small scattered homes and small cattle operations. The "Golden Valley Improvement District #2" was created a number of years ago, but was never incorporated. Other than this, no water company has claimed the area for service. The Valley Pioneers Water Company lies to the north 3 miles, and currently has approximately 800 connections. The Walnut Creek Water Company lies two miles to the east, on the other side of a small mountain; it has approximately 200 connections.

There is currently one water well registered with the Arizona Department of Water Resources (ADWR) within the Golden Valley 5800 Property. This well belongs to the Valley Pioneers Water Company (VPWC), and is not currently set up for potable use. The well was drilled for mining water operations, and then purchased in 2004 by the VPWC to augment their services. There are an additional 4 wells as part of the purchase agreement between VPWC and Cypress Minerals lying to the north of the property. Although these wells have the potential for good flows (in excess of 1,000gpm), no existing well provides sufficient water quantity for a master planned development within or immediately adjacent to the property. As there has been no historic need to drill and equip a well for the quantities required of a master planned community within the boundaries of the Golden Valley 5800 project, a definitive conclusion as to groundwater quantity and quality adequate to support the planned project can not be made. However, Stanley Consultants believes that regional data and data from the nearby water companies' well fields indicate that it is feasible to develop the groundwater resources in the area in order to service the project with a municipal type water supply.
Errol L. Montgomery and Associates (EMA) has been hired directly by Rhodes Homes to develop ground water resources. The first deep aquifer well has been drilled and is in the final stages of testing at the date of this report.

Water quality investigations of the existing system with treatment and/or disinfection requirements yielded findings that the water quality of the area is relatively good. Dissolved solids (salt) were the most consistent concern, but this is typical of Arizona water. Fluoride, arsenic and radon levels are such that treatment may be necessary, but violations occur in less than one third of the wells in Golden Valley which indicated treatments via blending are possible. At this time, future water quality regulations for groundwater appear to be met by the local water company's well water, so it is expected that the only impact of these new regulations is increased sampling.

There are three primary ownership alternatives for the water system. First, the Valley Pioneers Water Company applies for, and expands their service to include the Golden Valley 5800 property. Second, the developer contracts with a private company or district to own and operate the water system; or third, the developer forms a company to own and operate the system.

There is currently no sewer collection system within the project limits. Due to the densities being considered for the area, and the lack of any nearby system to connect to, a waste water treatment plant (WWTP) will be necessary. Mohave County does not allow a septic system for lots of less than 1acre in size, nor more than 5 connections to any individual system. The State of Arizona has stated emphatically that they will not approve a "store and haul" operation to one of the Kingman City plants. Other long term options were reviewed and discarded as impractical.

Once sewage is treated in a (WWTP), the effluent has to be disposed of. The effluent can be discharged to a receiving stream or it can be reclaimed for beneficial use. It is understood that the Golden Valley 5800 Project will be developed with golf courses, open space and parks that will make the development a "destination development" in Mohave County. As such, the use of reclaimed water to maintain these amenities is an attractive alternative. Using reclaimed water to maintain these facilities reduces the amount of ground water withdrawn from the local aquifer and provides a beneficial use for the effluent generated from the development. It will require pumping from the wastewater treatment plant (WWTP) to the points of use.

Using Bermuda grass for summer growth and over seeded with Rye grass for winter growth, we can estimate that green space in the Golden Valley 5800 parcels will consume reclaimed water at an annual average rate of 1.6 to 2.2 million gallons per year per acre of green space. Based on a typical 18-hole golf course using approximately 90 acres of turf, approximately 500 acre-feet per year of reclaimed water would be consumed. Data from a metro Phoenix golf course indicates an average daily reclaimed water use between 800,000 and 1,000,000 gallons per day. In general terms, irrigation use in this area of Golden Valley is projected to be similar to Phoenix metro use rates. Based upon early density numbers, the current effluent flow from the Golden Valley 5800 project would support the irrigation needs of 5 to 7 golf courses.

There are four primary ownership alternatives for the sewage system. They are first, the Valley Pioneers Water Company extends their service area to encompass the project, and includes waste water treatment as part of their service agreements; second, the developer contracts with a private company or special district to own and operate the sewage system; third, the developer forms their own company to own the system; or last, the developer can enter into separate ownership scenarios for the treatment plant and the collection system.

Drainage

Drainage basins were delineated from the US Geological Survey Quad Maps. Areas outside the Quad map limits were extended to the drainage basin limits for the Lower Colorado – Lake Mead Hydrologic basin GIS coverage. Parcel areas with the upstream watershed areas were used to determine approximate runoff affecting the parcels. Sub basins were delineated to represent flood zones as determined by FEMA. The 100-year 24 hour storm was used. Runoff for the areas outside the project site was not calculated.

The investigations showed that there is a significantly large wash, Sacramento Wash, running through the project's western boundary with about 35,300 cfs of peak storm water flow. Three other washes, the Holy Moses, Cerbat and Thirteen Mile pass through the project. The Holy Moses splits into four distinct heads near Interstate 40, with approximately 89% of the flow continuing toward the site. Two of the Holy Moses diversions enter the east side of the project with 15,182 cfs. The development of this area should be reserved for golf courses or parkland green spaces, which are best suited for flood zones. The proposed project will require extensive drainage improvements with bridge crossings in order to accommodate the planned development.

Traffic

With the exception of unpaved dirt roads, there is currently no surface transportation system within the limits of the property. Nearby AZTEC Road is paved to Shinarump Road and Shinarump Road is paved from Aztec Road to Interstate 40. Access into or out of the property is limited to three areas. Aztec Road is slated to be the primary entrance corridor from the north, with Colorado, Verde, and/or Bosque Roads being used to supplement peak travels. Shinarump Road has an existing interchange at Interstate 40, and will provide a primary corridor for travel into Kingman. Aquarius Drive will provide traffic flows out of the property to the south, and supplement access for Kingman traffic.

Per the area plans for the Western Area Council of Governments (WACOG) and the Arizona Department of Transportation (ADOT), there are no plans for the improvement of roadways or railways in the immediate area of the development.

Potential key to the success of this project may depend on either providing access to US Highway 68 and Interstate Highway 40, or the internal capture of the project generated traffic. In order to define internal capture, one should draw a line around the land area comprising this development. Trips which do not cross that line are referred to as internal capture trips. In order to accomplish this, trip attractors must be developed along with the trip generators. That is to say, along with the housing; work, retail and recreation destinations must be developed within the project boundary. This strategy will allow residents (homeowners) to stay within the project limits, and not make frequent regular trips into the greater Kingman area.

It is recommended that this project develop a grid style transportation network following the section line grid system. The recommendation is that major arterials with 120-foot cross sections should be developed on all township and range lines, arterials with 100-

foot cross sections should be developed on all section lines, and major collector roadways with 80-foot cross sections should be developed on all midsection lines. The network of collector and local roadways can then be developed as necessary to provide access to all trip generators and trip attractors. The intersection of all roadways with 100-foot or wider cross sections should be tapered (widened) to accommodate dual left turn lanes and dedicated right turn lanes as dictated by traffic study analysis. The need for turn lanes will be determined by placement of land use types. Alternative roadway alignments, dictated by a land plan, could be feasible provided equivalent volume and right of way issues are addressed.

Detailed information regarding the aforementioned are provided in the pertinent sections of the report.

Section 1

Introduction

INTRODUCTION

The purpose of this *Engineering Report* is to investigate the feasibility of developing the project's approximately 5800 acres of previously undeveloped cattle grazing rangeland by way of understanding the opportunities and the constraints of the property.

This report contains the results of an investigation of engineering issues and site analysis for existing conditions and future infrastructure alternatives of developing approximately 5800 acres south of U.S. Highway 68 and west of Interstate 40 in Golden Valley South Area, Mohave County, Arizona, hereafter called the "Project". The primary land use is of residential and/or commercial subdivisions.

The report is divided into the Overview, Existing Constraints, Hydrology, Water, Traffic/Transportation Infrastructure, and Wastewater Sections. The Overview section covers the site description, environmental setting and the site history. The Existing Constraints section identifies the land ownership information, existing utilities, transportation elements, the drainage features and the physical constraints of the Project. The Hydrology section discusses the existing drainage conditions and the future mitigations in conjunction with development. The Water section identifies the supply and demand issues and the alternatives for development. The Traffic Impact Analysis/Transportation Infrastructure section contains the transportation elements including the multimodal considerations. And, the Wastewater section identifies the supply and demand issues and the alternatives for development.

Section 2

Overview

Site Description

The site consists of approximately 5760 acres of almost entirely undeveloped range land with access via a limited network of roads.

The location of the site is shown on Figure 2-1.

The site occupies portions of 10 sections covering a total of approximately 5760 acres.

Legal Description

The site consists of the following properties, all located in Mohave County, Arizona, located some 5 miles away from the southwest corner of the City of Kingman boundaries.

Table 2-1 - Legal Description

Township/Range	Sections
T21N R18W	SW¼ Sec. 34
T20N R18W	Section 2; except SE¼ of SE¼
T20N R18W	Section 3 with out parcels
T20N R18W	Section 4 with out parcels
T20N R18W	Section 8 with out parcels
T20N R18W	Section 9
T20N R18W	Section 10 with out parcels
T20N R18W	Section 11 with out parcels
T20N R18W	W¾ of Section 14
T20N R18W	Section 16

Figure 2-1 – Golden Valley South

The site includes all or portions of 10 sections located in two townships in the southern part of the area known as "Golden Valley, South", in Mohave County, Arizona. The site is contiguous, with several "out parcels" lying within the site, ranging from 5 to 15 acres in size (refer to Figure 2-2). Total area of the site is approximately 5,760 acres.

Most of the Rhodes Golden Valley 5800 acres site is vacant open space. Some cattle grazing, mobile homes and "storage yard" uses are apparent. The site slopes gradually upwards toward the east and northeast toward the Cerbat Mountain. The land includes a few corrals and water tanks, foundations of old home sites and the detritus from dumping of building materials and similar refuse. The area is served by a limited network of roads. An Arizona Game & Fish shooting range is located in the eastern portion of Section 14. Other locations throughout the site, mostly in wash areas, sport-related debris (shell casings, etc.) were noted. A minor amount of scrap metal, including several old vehicles are scattered around the site.
Section 4 includes an old corral and the deteriorating hulk of an old mobile home. Several other areas include remnants of previous habitation or storage. All are in scrap condition now.

Overhead power runs through the site as a 230KV line, which is not available for development. Fiber optic cables exist on Shinarump, Aquarius, Sacramento and Centennial.

The site and surrounding area are shown on Figure 2-2. The "out parcels" are primarily owned by the City of Kingman; and were once proposed as sites for water wells, prior to the law change excluding the movement of water between basins.

Adjacent Properties

The properties immediately around the site are sparsely populated, primarily with mobile homes, or are totally undeveloped. As noted previously, an Arizona Game & Fish shooting range lies to the east. Adjacent to the shooting range are several wood and plaster, slab on grade homes with improved landscaping. The "Old Oatman Highway", or US Highway 66 lies to the southeast, with Interstate Highway 40 being slightly farther. US Highway 68 lies some 5 miles to the north, with a connection to US Highway 93. Near to US Highway 68 lies an area of denser development, with a number of one acre parcels with homes and other improvements.

Although several communities have been mapped in the area, none have fully developed. The nearest, Sunrise Acres, lies 4 miles to the northwest, and consists of 1+ acre lots. The Bureau of Land Management BLM controls the majority of lands between the project and the City of Kingman.

Table 2-2 - Climate

Month	Average Daily Temperature °F		Average Total Precipitation (Inches)
	Daily Maximum°	Daily Minimum	
January	54.3°	31.4°	1.23"
February	58.8	34.7	1.10
March	63.2	38.4	1.31
April	70.9	44.5	.47
May	80.3	53.0	.31
June	91.1	62.6	.19
July	95.6	69.3	.98
August	94.0	67.8	1.41
September	87.8	61.3	.66
October	76.8	49.6	.81
November	63.1	38.3	.71
December	55.2	31.9	.82
Year	74.3°	48.6°	10.0"

Based on a 30 year average (1971-2000)

Record High: 111° F (Tied on July 3, 1967 & July 10, 2003)
Record Low: 4° F (January 29, 1979)
Average Total Snow, Sleet and Hail Annually: 1.5"
Mean Relative Humidity: 39% at 6 A.M., 27% at 6 P.M.

Mean Number of Days with maximums 90° & above: 93
Mean Number of Days with minimums 32° & below: 58
Mean Heating Degree Days: 3224
Mean Cooling Degree Days: 1778
(Source NOAA)

Topography

Local topography varies from lows of approximately 2,500 ft. in elevation along the west and southwest portions of the site to approximately 2,800 ft. in elevation on the easterly edge of the site.

Drainage from the site is generally to the west and southwest towards the Sacramento Wash via the Holy Moses, Cerbat and Thirteen Mile washes as well as a network of unnamed washes and surface drainage channels.

Geology and Soils

Based on USDA Soil Conservation Service mapping for the area, the dominant soil type in the site area is most likely the Bucklebar sandy loam. This is a deep to moderately deep well to moderately well drained coarse grained soil with moderate hydraulic conductivity and a typical depth to the water table of greater than six feet. These soils reportedly do not meet the requirements for hydric soil.

The site and surrounding area are underlain by Precambrian age metamorphic rocks, reportedly orthogenesis and paragneiss. Due to the considerable expanse of the site and variation in the topography of the site from east to west, depth to bedrock would be expected to vary greatly beneath the site.

Hydrogeology

According to the Arizona Department of Water Resources (ADWR), basin and range aquifers are generally the principal sources of ground water in the site area. These aquifers are present in alluvium-filled basins interspersed between ranges of northwest to southeast trending mountains in the northwest portion of Arizona. The site is located within the Sacramento Basin.

Chromium has reportedly been detected in several of the water production wells operated by the City of Kingman in the airport area. In 1982, eight of ten known wells drilled in the airport area contained chromium in excess of the maximum contaminant level of .05 milligrams per liter. In 1992, the maximum contaminant level for chromium was raised to .10 milligrams per liter; all of the water sample results for the City of Kingman's airport area production wells were then under the new maximum contaminant level for chromium. Prior water quality studies have reported an increase in chromium below a depth of about 1,000 feet.

The Sacramento Basin is characterized by fill sediments ranging from 2,000 to 6,000 ft., in thickness. The fill can be separated into three distinct units: young, alluvium, intermediate, alluvium and older alluvium.

The majority of wells used by individuals for domestic and agricultural applications are planed in the young alluvium, or high intermediate alluvium. Production wells will need to be placed into the older alluvium for the project.

Site History

Review of historical information indicates that past site uses were most likely similar or identical to current site uses.

The Kingman area was originally settled in the 1880's. The railroad was apparently constructed in the area at approximately that same time (Kingman was reportedly a railroad siding). U.S. Highway 66 was apparently constructed in the area during the 1920's. An airport was apparently present at the current airport site during the 1920's as well.

The City of Kingman has been the county seat of Mohave County since 1887. Throughout much of its history the mining of gold, silver, copper, and later molybdenum was a mainstay of the Kingman economy. During the early days, one of Kingman's most notable residents, the western actor Andy Devine, was raised in Kingman. His parents owned, ran, and lived in the Beale Hotel on Front Street, later renamed Andy Devine Avenue.

The construction of Boulder Dam (later renamed Hoover Dam) and the highway to the dam in the 1930's, included the establishment of a major Air Corps gunnery school at the airport during World War II, and construction of Davis Dam following the war, all provided new residents and employment. Incorporation in 1952 brought road paving, sidewalks, street lights, a municipal water system and City parks. The boom in rural subdivisions in the 1960's, mostly purchased and settled by retirees, and the start of manufacturing and distribution in the late 1960's, brought on a period of tremendous growth.

Following the closing of the copper mines in the late 1970's, Kingman's economy began to diversify. Recently, Kingman has become a regional trade, service and distribution center for northwestern Arizona. Its strategic location relative to Los Angeles, Las Vegas, Phoenix, Laughlin, and the Grand Canyon has made tourism, manufacturing and distribution leading industries.

Favorable Arizona tax rates, Interstate 40, the Burlington Northern & Santa Fe Railroad mainline, and the proximity to the California market makes Kingman a prime site for industries and distributors. The Kingman Airport Industrial Park, with reasonable land costs, is attracting the attention of manufacturers and distributors who wish to establish facilities to serve the western states. Kingman's high-quality affordable housing, the comparatively low-cost of living, and the pleasant year round weather are just a few of the positive factors that have attracted new residents. – *City of Kingman 2004-2005 Community Prospectus.*

Section 3

Existing Constraints

Existing Constraints

An over-all area wide constraints map with off-site improvements was developed and included as a foldout map at the end of this chapter. (Refer to Rhodes Golden Valley 5800 Constraints Exhibit.) This exhibit identifies relevant land ownerships, existing utilities, transportation elements and the drainage features within or near the project. Existing zoning for the project is generally 1 to 36 acres per lot, with the exception of APN 306-63-008 in the southwest quarter of T.21N, R.18W, Section 34, which is inside the Golden Valley Planning Area and is zoned AR 36A (Agricultural-Residential – Minimum lot size is 36 Acres). The General Land Plan has this area planned as an Urban Development Area.

Land Ownership

The land in the project vicinity is privately owned, with many of the sections having been subdivided, but not constructed. All adjacent land owners have not been identified as this area does not have a significant mix of public and private land owners.

Existing Utilities

Existing Water Facilities–The project lies outside of the Kingman City Service Boundary and south of the Golden Valley Improvement District #1. Existing development in the area relies upon individual wells. The Walnut Creek Water Company services a community east of Section 12. The Valley Pioneers Water Company (800 connections; assured water supply) lies to the north of Redwall Drive.

Existing Water Wells– A single well lies at the northwest corner of Section 4 (Well #5), and was used to service a mine lying 5+ miles to the west. This well is non-potable, but has been purchased by the Valley Pioneers Water Company (VPWC) which has plans to retrofit to potable use. There are several private use, small diameter wells within the project boundary. Several municipal wells (Golden Valley Improvement District #1 and (VPWC) lie to the north and west of the project.

Existing Power Substations- Per phone conversation with Mike Gibelyou of Unisource Energy, there is currently one substation on the west side of the Jaguar alignment, on the Zora/Bali Hi intersection. A new substation has been proposed northwest of the project site to alleviate capacity issues, but was not intended for the density of this development. Unisource Energy is willing to work with developers to serve the development needs.

Existing Sewer Facilities–The existing development in and around the project area are served by septic systems. In addition, a sewage treatment plant has been constructed for the State Prison, approximately six miles south of the project. . Because the prison is under construction, definitive information regarding the capacity of the system is not readily available. Preliminary information shows the facility as a lagoon to handle the low flow characteristics of the prison.

Existing Gas Line– Gas service in the Kingman/Golden Valley area is provided by Unisource Energy Services using El Paso Natural Gas and Transwestern Pipeline as suppliers. Both suppliers have transmission pipelines on the west side of Interstate 40 which cross under Interstate 40 about 2 miles east of the southern project limits. There appear to be two gas valve yards existing in T.20N, R.18W, Section 34. It appears that Unisource has the same 5 year recapture agreement policy in place for Golden Valley as is in place for other master planned developments in the County, however this is unconfirmed at this time.

Existing Power Transmission Lines– An existing 230kv transmission line transects the northern portion of the project. It serves Prescott Arizona from the Davis Dam. A usable 69kv transmission line exists about ½ mile south of the southeast project corner. Another 230kv transmission line exists about 1 ½ miles farther south connecting to the Griffith Power Plant.

Fire protection services- This entire project lies within the service area of the Golden Valley Fire Department, which has two stations. Station 1 is located at 3327 North Mayer Road, and Station 2 is located at 749 Egar Road, both in Golden Valley, Arizona 86413. The site is serviced by Station 1; but lies outside of the UFC5 code area for insurance purposes (more than 5 miles from nearest station).

Police services for the project area are provided by the Mohave County Sheriff Office located at 600 West Beale Street, Kingman, Arizona 86401 (928) 753-0753.

***Waste services are provided by contract with either*:**

Waste Management	Westside Disposal
3250 Gatlin	PO Box 10129
Golden Valley, AZ 86413	Golden Valley, AZ 86413
(928) 718-4900	(928) 565-9369

Existing Black Mesa Coal-Slurry Pipeline (underground) . - Per the Assessors Maps, an easement runs on the north side of T.21N, R.18W, Section 30, turns north 45 degrees to the northeast corner of Section 16 and along the north side of Sections 15, 14, and 13, then continues on the same alignment to US Highway 93, parallels US Highway 93 for about 1 ½ miles where it crosses US Highway 93 and enters Kingman.

Transportation Elements

Existing Highways – Interstate Highway 40 is a fully controlled four lane divided highway. Access is granted only through ADOT and FHWA approval at grade separated locations (traffic interchanges). Old State Route 66 is a two lane facility near the project which does not have access control, driveways are permitted through ADOT. State Route 68 is an undivided five lane facility near the project limits and becomes a divided facility several miles west of the project. The facility is not access controlled, with driveways and intersections permitted through ADOT. Shinarump Road is Mohave County Route 223.

Railroad Tracks – The Burlington "Northern & Santa Fe Railroad parallels the east side of Interstate Highway 40.

Existing Unpaved Roads – While not a constraint, the unpaved roads are not maintained and provide the only means of access through the project site.

Flood Zones

Special Flood Hazard Areas exists within the project location and they are shown with blue shading in the Constraints Map. (Reference FEMA Flood Insurance Maps)

- This poses a major constraint to development
- As does 404 permitting in washes

Other Information Provided on the Constraints Map

- A Waste Management transfer facility exists near the Interstate 40/Shinarump Road, Interchange.
- According to the Kingman Chamber of Commerce, a new Wal-Mart distribution center is planned to be constructed north of the Arizona State Prison – Kingman.
- Property boundaries and paper subdivisions are shown.
- Townships, ranges, and Sections are shown.
- Several Water District boundaries are shown.

Note: The subject constraints map is a general indicator of site development issues. Prior to development design and master planning; an ALTA survey is recommended.

References:
Cartography Department - Mohave County
Unisource Energy Services
Mohave County website - http://www.co.mohave.az.us/
ADOT website - http://www.dot.state.az.us/
Golden Valley Fire Department